

a short cut 7 in one side edge near the end where the tip of the catheter A is located and inward from the seal-lines 4 at that end. In order to open the package, one need only tear off the end, starting with the cut 7 and tearing straight across; then place the package on a flat surface and peel back the upper sheet 8 (Fig. 7) while holding down the lower sheet 9; then turn back both sheets (Fig. 8) and remove the card B, leaving the tip of the catheter exposed (Fig. 9) and ready for insertion, while the catheter has not been, and still need not be, touched by either hand of the operator. Since some users prefer to open the package at the opposite end and remove the contents entirely before use, a cut 7' is provided also adjacent said opposite end. Accidental contamination of the contents is readily avoided in either case.

To the extent that internal pressures may be developed within the package, during sterilization or subsequently, it will be noted that they act evenly against the continuous straight seal-lines around the whole periphery of the package and can never become strong enough at any localized point to separate the upper and lower sheets. While the seal-lines resist strongly such forces, the packages can be opened easily as described above since the peeling action is resisted only at the four or five points on each side where the line of separation intersects, more or less at right angles, the several seal-lines.

Catheters and the like, particularly those of the "Foley" latex type, are very flexible and non-self-supporting. For this reason it is necessary that they be mounted on a supporting card such as that indicated at B (Figs. 2 and 4). The particular manner of mounting shown in Fig. 4 is highly advantageous because of its simplicity and effectiveness; the card is X-cut at two, or preferably three, points and is then laid in a jig where the side edges opposite each cut can be depressed to make the triangular fingers B', B' stand up and separate enough so that the catheter A can be dropped between them, the jig then being released and the fingers closing down on the catheter. The card is preferably scored longitudinally, as indicated at B'', between the outer ends of adjacent cuts but not between the ends of any single cut, so that the parts of the card adjacent each finger B' remain somewhat bent down, as shown in Fig. 4. The complementary lower triangular fingers have their tips almost in contact below the catheter, so that the assembly can be placed on a table or the like with no possibility of the catheter coming in contact with any supporting surface other than the card itself, particularly since the bent down edges just mentioned also act as "legs" on which the card is at least partially supported. The catheter is held firmly enough by the fingers B', B' so that it will not drop off the card in the course of normal handling but it can be readily removed whenever desired.

Although the package and method described above were devised primarily for use in connection with catheters and the like, it will be evident that the invention

is useful in connection with numerous other devices which require sterile packaging and adaptation to such devices, within obvious limits, is intended to be regarded as within the scope of the invention.

5 If desired, a laminated cover sheet could be affixed to an impervious backing sheet, laminated or not. In any case the thickness of the permeable layer and the permeability rate through the strip 4' (when present) are factors to be considered and correlated with the duration and degree of the vacuum and pressure treatments. As a further variant, a plurality of separate cover sheets, each forming a "package," can be affixed to a single backing sheet either as an intermediate step in the formation of separate packages or as the definitive step in making a unit having articles in individual sealed compartments.

15 What I claim is:

1. A package for the protection of articles requiring sterilization and the maintenance of sterility comprising, a backing sheet, a cover sheet fixed to said backing sheet along at least one continuous line adjacent to the periphery of the cover sheet, at least the cover sheet being made of laminated plastic sheet material the inner layer of which is effectively gas permeable and an outer layer of which is gas impervious, at least the edge of said inner layer being exposed on the outside of the package, and a narrow strip of microporous material lying between said sheets and extending from the interior of the package to an outer edge thereof.

2. A package according to claim 1 in which the inner layer of gas permeable material is substantially thicker than the outer layer of gas impervious material.

3. A package according to claim 1 in which the backing sheet is made of laminated plastic sheet material the inner layer of which is gas permeable and an outer layer of which is gas impervious, at least the edge of said inner layer of the backing sheet being exposed on the outside of the package.

4. A package according to claim 3 in which the backing sheet and the cover sheet are substantially coextensive.

5. A package according to claim 4 in which the gas permeable layers of the sheets are sealed together along a plurality of continuous lines adjacent to the periphery of the sheets.

References Cited in the file of this patent

UNITED STATES PATENTS	
635,045	Henry et al. ----- Oct. 17, 1899
1,506,010	Lapin ----- Aug. 26, 1924
2,279,842	Smith et al. ----- Apr. 14, 1942
2,402,982	Steenbergen ----- July 2, 1946
2,572,669	Sarge et al. ----- Oct. 23, 1951
2,634,856	Perkins ----- Apr. 14, 1953
2,757,793	Deitz ----- Aug. 7, 1956
2,763,107	Day et al. ----- Sept. 18, 1956
2,807,362	Haddad ----- Sept. 24, 1957